

- India. *Biotropica* 35: 208-218.
- GAUTIER-HION, A. (1980): Seasonal variations of diet related to species and sex in a community of *Cercopithecus* monkeys. *Journal of Animal Ecology* 49: 237-269.
- GUEVARA, S., J. LABORDE & G. SÁNCHEZ-RÍOS (2004): Rainforest regeneration beneath the canopy of fig trees isolated in pastures of Los Tuxtlas, Mexico. *Biotropica* 36: 99-108.
- HARRISON, R.D. (2005): Figs and the diversity of tropical rainforests. *BioScience* 55: 1053-1064.
- HUME, A.O. (1890): Order Bucerotes. In: The Nests and Eggs of Indian Birds. Vol. III. Oates, E.W. (Ed.): R.H. Porter, London. 1890.
- JAMES, D.A. & R. KANNAN (2007): Wild Great Hornbills (*Buceros bicornis*) do not use mud to seal nest cavities. *Wilson Journal of Ornithology* 119: 120-123.
- JAMES, D.A. & R. KANNAN (2009): Nesting habitat of the Great Hornbill (*Buceros bicornis*) in the Anaimalai Hills of southern India. *Wilson Journal of Ornithology* Vol. 121, in press.
- JAMES, F.C. & H.H. SHUGART JR. (1970): A quantitative method of habitat description. *Audubon Field Notes* 24: 727-736.
- JANZEN, D. (1979): How to be a fig. *Annual Review of Ecology and Systematics* 10: 13-51.
- KANNAN, R. (1994): Ecology and conservation of the Great Pied Hornbill (*Buceros bicornis*) in the Western Ghats of southern India. Ph.D. dissertation, University of Arkansas, Fayetteville, Arkansas, U.S.A.
- KANNAN, R. & D.A. JAMES (1997): Breeding biology of the Great Pied Hornbill (*Buceros bicornis*) in the Anaimalai hills of southern India. *J. Bombay Nat. Hist. Soc.* 94: 451-465.
- KANNAN, R. & D.A. JAMES (1999): Fruiting phenology and the conservation of the Great Pied Hornbill (*Buceros bicornis*) in the Western Ghats of southern India. *Biotropica* 31: 167-177.
- KANNAN, R. & D.A. JAMES (2007): Phenological studies of hornbill fruit plants in tropical rainforests: methodologies, problems, and pitfalls. Pp. 155-166. In: Kemp, A.C. & M.I. Kemp (Eds): The Active Management of Hornbills for Conservation, CD-Rom Proceedings of the 4th International Hornbill Conference, Mabula Game Lodge, Bela-Bela, South Africa. Naturalists & Nomads, Pretoria.
- KEMP, A. (1995): The Hornbills. Oxford University Press, England.
- KINNAIRD, M.F. (1998): Evidence of effective seed-dispersal by the Sulawesi red-knobbed hornbill *Aceros cassidix*. *Biotropica* 30: 50-55.
- KINNAIRD, M.F., T.G. O'BRIEN & S. SURYADI (1996): Population tracking in Sulawesi Red-knobbed Hornbills: tracking figs in space and time. *Auk* 113: 431-440.
- KITAMURA, S., S. SUZUKI, T. YUMOTO, P. POONSWAD, P. CHUAILUA, K. PLONGMAI, N. NOMA, T. MARUHASHI & C. SUCKASAM (2004): Dispersal of *Aglaia spectabilis*, a large-seeded tree species in a moist evergreen forest in Thailand. *Journal of Tropical Ecology* 20: 421-427.
- LAMBERT, F. (1989): Fig-eating by birds in a Malaysian lowland rainforest. *Journal of Tropical Ecology* 5: 401-412.
- LAMBERT, F. & A. MARSHALL (1991): Keystone characteristics of bird dispersed *Ficus* in a Malaysian lowland rainforest. *Journal of Ecology* 79: 793-809.
- LEIGHTON, M. & D.R. LEIGHTON (1983): Vertebrate responses to fruiting seasonality within a Bornean rain forest. Pp. 181-196. In: Sutton, S.L., T.C. Whitmore & A.C. Chadwick (Eds): Tropical rainforests: ecology and management. Blackwell Scientific Publications, Oxford, England.
- MoEF (Ministry of Environment and Forests, Govt. of India) (2006): The Indian Wildlife (Protection) Act, 1972, as amended up to 1993. www.envfor.nic.in/legis/wildlife/wildlife1.html (accessed May 2006).
- MORRISON, D.F. (1967): Multivariate statistical methods. McGraw-Hill, New York.
- MUDAPPA, D.C. & R. KANNAN (1999): Nest-site characteristics and nesting success of the Malabar Gray Hornbill *Ocyroceros griseus* in the southern Western Ghats, India. *Wilson Bulletin* 109: 102-111.
- O'BRIEN, T.G., M.F. KINNAIRD, E.S. DIERENFELD, N.L. CONKLIN-BRITAIN, R.W. WRANGHAM & S.C. SILVER (1998): What's so special about figs? *Nature* 392: 668.
- SAS INSTITUTE (1985): SAS user's guide: Statistics, version 5. SAS Institute, Inc., Cary, North Carolina.
- WENDELN, M.C., J.R. RUNKLE & E.K.V. KALKO (2000): Nutritional value of 14 fig species and bat feeding preferences in Panama. *Biotropica* 32: 489-501.

27. THREE NEW ADDITIONS TO THE NON-INDIGENOUS FLORA OF ANDAMAN ISLANDS, INDIA¹

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During a botanical exploration in the Little Andaman Island, the authors collected three plant species, which have been identified as *Pentapetes phoenicea* L. (Sterculiaceae), *Asclepias currasavica* L. (Asclepiadaceae), and *Acorus calamus* L. (Araceae). The literature on the floristics of Andaman and Nicobar Islands shows that occurrence of these taxa from the union territory has not been reported earlier (Vasudeva Rao 1986; Mathew 1998). The present communication gives a current nomenclature, brief description, distribution and ecology.

Pentapetes phoenicea L., Sp. Pl: 698. 1753; Mast. in Hook.f., Fl. Brit. India 1: 371. 1874; Ridl., Fl. Mal. Pen. 1: 284. 1922; C. Phengklai, Fl. Thai. 7(3): 595. 2001. *P. angustifolia* Bl., Bijdr.: 87. 1825.

Annual herb, c. 80 cm high. Leaves simple, narrowly lanceolate, 3.0-14.0 x 0.5-1.5 cm, apex acuminate, base obtuse, margin serrate to serrulate. Flowers pink. Sepals 5, narrowly triangular. Petals bowl-shaped. Stamens in 5 groups; staminodes 5, inserted between the group of stamens, both surrounding the ovary. Ovary ovoid, hairy, 5-locular.